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Quality of Life and Energy Conservation



A Report prepared for the
Royal Commission on Electric Power Planning
Province of Ontario

October, 1977



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This report discusses the relationship between energy and quality of life, power generation, energy conservation policies, and lifespans. This material has been revised to conform to the basic paper prepared by the author for the Royal Commission on Electric Power Planning.

QUALITY OF LIFE AND ENERGY CONSERVATION

by

William Leiss

"The Search for Quality of Life" and "Lifespans"

The main body of this paper contains a comparison of the various Canadian sources of energy and their impact on quality of life and quality of living.

A Report prepared for the

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The author wishes to thank the Royal Commission on Electric Power Planning for its permission to publish this report and for its perspective on quality of life.

(1) increased economic efficiency in socially-useful lives and the

(2) does not necessarily lead to a greater sense of contentment or well-being for the population as a whole;

(3) although there are increasingly "softening" and changing

(4) more economic policies are often adopted to stimulate

*The conclusions presented in
this report do not necessarily
reflect the views of the Royal
Commission on Electric Power
Planning.*



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This report discusses the relationship between energy and electrical power consumption, energy conservation policies, and lifestyles. These matters have been raised in several places in the issue papers prepared by the Royal Commission on Electric Power Planning. In particular, this report refers to the sections on "Conservation" and "Lifestyles," as well as to the passages on need versus demand, in Issue Paper no. 2, "The Demand for Electric Power" (December 1976).

The main body of this report outlines a perspective on contemporary Canadian society, which in turn suggests a way of understanding the public perception of "lifestyle," "quality of life," and "standard of living." This perspective is then related to the specific issues of energy and electrical power demands, the planning process needed to respond to those demands, and in particular to energy conservation policies. Finally, the report seeks to identify the critical considerations for possible recommendations on long-range energy and electrical power planning.

The key points to be developed in outlining the perspective on contemporary society are:

- (1) increasing material affluence in a socially-competitive setting does not and cannot lead to a greater sense of contentment or well-being for the population as a whole;
- (2) lifestyles today are increasingly "malleable" and changeable;
- (3) energy conservation policies may or may not result in significant net benefits for society, depending on the larger context of which they are a part;
- (4) the growing personal and institutional interdependence in society makes adequate long-range policy planning essential -- but also

extremely difficult to implement, owing to difficulties in "processing" information.

The main points to be made in deriving policy recommendations from this general perspective are as follows:

- (1) difficulties in handling the institutional stresses resulting from exponential increases in demand counsel us to manage demand toward lower, rather than higher, rates of growth;
- (2) lifestyles can be "influenced" both directly and indirectly by public policy choices, in ways that are consistent with democratic freedoms;
- (3) significant public policy influences on lifestyles are possible only in a long-range planning framework, such as the time frame specified for the Royal Commission;
- (4) energy conservation policies can, if properly devised, be a factor in improving the quality of life.

The introductory section of the report reviews the issues, raised in the Commission's hearings and documents, that are most relevant to the points listed above. This sets the stage for the presentation of the general perspective, which is followed by the sections on policy considerations.

I. Introduction

Among the many issues raised in the Commission's papers, the one that is most directly relevant to this report is the correlation between energy consumption and standard of living. It has been noted that in Canada "per capita energy consumption has increased almost in proportion

to per capita income." The questions are how we should interpret that fact and what influence it has on our planning for future demands.

Comparative studies of the ratio of energy use to national output (GNP) show two "clusters" for the Western industrialized countries: in the "high" range are Canada, Norway, the United Kingdom, and the USA, and at a significantly lower level are West Germany, France, Japan, and Sweden. Schipper and Lichtenberg have done a detailed comparative study of the USA and Sweden; with roughly comparable standards of living, Sweden, in 1971, used only 60% as much energy to generate each dollar of GNP as did the USA. The difference was found to be largely in the better energy efficiency of the Swedish economy, especially in automobiles, building structures, and use of process heat.

Two of these factors -- automobiles and building structures -- have quite clear "lifestyle" aspects. Larger automobiles and less concentrated dwelling patterns require more energy; but if these are indeed expressions of our preferences, then to be denied the option of expressing them presumably would be injurious to us. But just how serious a problem is this for Canadians? In order to answer this question, we need to know what the expression "standard of living" really means, and especially how changes in perceived standards of living come about. I shall consider this matter at some length in the following sections of this report.

Various studies (Ross and Williams, Schipper and Lichtenberg) have suggested that, by improving energy efficiency, the USA could save between thirty and forty per cent of energy consumed while producing the same goods and services. We can surmise that the Canadian situation is not much different (on the same assumptions, of course). These figures are naturally open to debate. The issue that is relevant in the present

context, however, is determining the basic objective in improving energy efficiency. In the absence of other policies designed to moderate demand, better energy efficiency may simply enable us to consume more goods and services, thus offsetting the energy savings and having little or no net effect on historical growth rates in energy consumption.

An example is provided in the 1977 load forecast submitted to the Royal Commission by Ontario Hydro. In this submission, entitled "Electricity Demand" (April 1977), we read: "No constant rate of exponential growth can be sustained forever." Yet in the load forecast for December primary peak demand Hydro indicates that it expects this demand to increase at about 6% per year for the entire period 1977-2007, representing a sixfold increase in total demand over the next thirty years. This forecast is arrived at after Hydro has taken into account the effects of its own wide-ranging conservation program, and it is roughly the same as the forecast for total demand made by the Electrical and Electronic Manufacturers Association of Canada in their May 1977 submission to the Royal Commission.

A large part of the projected increase results from the expectation that electrical energy will make up a progressively larger share of Canada's total energy consumption during this period. Whether this substitution is either desirable or necessary is another matter. Some studies now suggest, however, that Canada could achieve zero per capita energy growth overall by 1990. This point will be hotly contested, to be sure. The specific issue for the Royal Commission is therefore this: Given the acknowledgment that "no constant rate of exponential growth can be sustained forever," must we accept the inevitability of exponential growth in electrical demand (in planning for 1983-1993 and beyond) over

the next thirty years? And at what point might we be "locked into" this historical growth rate for the period after 2007?

According to these forecasts, the best we can expect from vigorous energy conservation policies is to hold the exponential growth rate for electricity (peak primary demand) to 6% per annum. Ontario Hydro notes that demand for electricity is a function of the "pattern of activities" or "lifestyle" adopted by the people of Ontario, and the submission goes on to say: "Changes in lifestyle can be initiated both by changes in the resources available, such as the decline in Canadian oil supply, or by changes in attitudes as to whether a particular lifestyle provides a high or even an acceptable degree of satisfaction, or quality of life." Predicting such changes is said to involve great uncertainties. Moreover, it is not clear what agency of government could or should take responsibility for establishing future supply capacities on the basis of predicted changes in lifestyles.

Notwithstanding these uncertainties, one can say that some common ground is evident, and some clarification of issues has been achieved already, in the documents prompted by the Royal Commission's work to date. There is some measure of agreement, among individuals and groups representing a wide range of interests, that a discussion of lifestyle changes is a crucial ingredient in long-range planning for electrical energy supply. Given this agreement, it now becomes very important to decide upon the proper way of framing our questions about the factors that are responsible for changes in lifestyles.

In its issue paper on the demand for electric power, the Commission asks: "To what extent is the maintenance of existing lifestyles (in the sense of living standards) in Ontario possible and/or desirable?" I would

suggest that, before we attempt to answer this question, we should explore a bit further the prior question of what "living standards" mean to individuals in a complex industrial society. In the following sections I have offered my own interpretation of how we should address this question.

In any interpretation of this matter one inevitably confronts the problem of deciding how much weight to assign to qualitative, as opposed to quantitative, indicators of living standards. We are now in a period when increasing dissatisfaction with the familiar quantitative indicators is being expressed. However, we seem to lack a reliable or useful set of qualitative indicators. I think there is at least a partial solution to this dilemma, which emerges from the general perspective outlined below. Here I would like just to note the essential point to be made: We must recognize that every quantitative measure of living standards (increased energy consumption, for example) must be ultimately translated by individuals into a sense of greater or lesser well-being, which is non-quantitative in nature. To put the point crudely: Individuals experience changes in perceived well-being not by reading accounts of the quarterly economic indicators, but by subtle interpersonal comparisons derived from the "messages" circulating in their social environment. I will try to show why we must take seriously the qualitative dimension in policy and planning contexts even if we cannot expect to grasp it with precision.

Finally, a relevant issue that has been raised indirectly in the Commission's work to date is: What is the relationship between the "conservation ethic" for energy, which has been adopted very quickly by every major institution in our society, and the still-powerful "consumption ethic" -- which simultaneously continues to be promoted in other ways by

many of those same institutions? Posing this question is an important consideration in deciding what are the fundamental objectives of our energy conservation programs. Are we seeking to conserve energy primarily so that we can be assured of pushing upwards our general consumption levels indefinitely? -- or are there other objectives, and if so, what are they? If energy conservation is only regarded as a means to assure increasing consumption generally, then clearly there is only an indirect, rather than a direct, relationship between energy conservation and quality of life. But could there be a direct relationship? Posing these questions is important for understanding the connections among energy planning, conservation policies, and possible lifestyle changes.

These are the principal issues, raised in the documents and testimony elicited by the Royal Commission's work, that are directly relevant to the terms of reference for this report. I shall now turn to an exposition of a general perspective designed to help us understand the problem of lifestyle changes.

II. Lifestyle Change in the Consumer Society

There are many accounts of what is meant by the phrase "the consumer society." As used here it means a society in which most individuals have access to large numbers of goods; in which many goods have complex characteristics; in which the characteristics of goods change quickly and frequently; and in which there is an enormous number of "messages" suggesting to individuals what should be their personal objectives in their consumption activities. In order to understand what the significance of these features is, we should briefly compare the consumer society with the kind of society

that preceded it in North America.

The consumer society is quite new: for all practical purposes we should regard it as having emerged only in the nineteen-fifties. Thus most people born in North America before 1945 can remember a quite different kind of society; to use a now-fashionable term, we could call it by way of comparison a "conserver society."

Most people raised in that older conserver society practiced "conservation" as a matter of habit, without being consciously aware of doing so. They took pride in prolonging the useful life of their possessions through their skills in re-using and repairing them. For example, I remember as a child carefully folding the lunch bag I had carried to school, so that I could take it home to use again. My father spent considerable time each evening in winter preparing the coal-burning stoves for the night, so that maximum benefit could be derived from the right amount of fuel. These may appear to be trivial examples, but I think that they illustrate a habit of mind, or pattern of behaviour, that was widespread. Clothing, toys, and tools were repaired for as long as possible; as children we were admonished constantly not to "waste" anything.

Since we have become rather cynical in the intervening period, it would come as no surprise to me if the behaviour described above were explained today as merely a response to poverty or economic necessity: People practiced this kind of conservation because they couldn't afford not to do so. We tend to find such "straightforward" explanations comforting nowadays, because they can be expressed in quantitative terms. (Some writers urge us to view all our personal activities, including family relationships, as exchanges of goods and services, including the calculation of utilities and appropriate rates of remuneration.) But we

should consider the matter more closely before agreeing to accept such a facile explanation.

The older conservation behaviour was supported by the idea that waste was "wrong" or "immoral." This idea was often associated with formal religious teachings, but it was also sometimes presented as a non-religious ethical principle. Obviously this principle was most meaningful to people whose economic circumstances also obliged them to be frugal in their consumption patterns. But it had a broader significance as well. I believe there is a close relationship between a "caring" attitude toward how we use material goods, and a caring attitude toward ourselves (a sense of self-respect) and toward other persons. And I believe that an adequate sense of personal satisfaction and well-being requires, among other things, this kind of caring attitude.

To anticipate some of the discussion to follow for a moment: The consumer society encourages us to discard things that are no longer "fashionable," even if those things have many remaining useful qualities. Yet as we consume things we "invest" our own personality and feelings in them: in buying clothes or cars we believe that in part our choices "say something" about ourselves to others whose approval and friendship we seek. As many persons respond to more and more frequent fashion trends, they must become indifferent to what they have and how they use it at any particular time, since it will be "obsolete" in a short while. The personal feelings and interpersonal associations invested in their possessions are discarded along with the goods themselves, to be replaced by a new set. The consumer society encourages us to regard not only material goods, but our own states of feelings toward ourselves and others, as easily disposable items.

This continuous "turnover" of goods and feelings, and the growing indifference that accompanies it, has no stable reference-point. There is an increasing ambiguity in the satisfaction of needs (this point is more fully developed later). This is what is important about the necessity for re-establishing a conservation ethic in our society. This conservation ethic, based upon a caring attitude toward things and persons, must be formulated as a value in itself, and not merely as a means of assuring continued growth in levels of consumption. For unlike the endless changes in fashion, a caring attitude provides a stable basis for a sense of personal satisfaction.

I have tried to suggest that the older conserver society, despite its lower levels of material consumption, provided a better framework for a sense of satisfaction and well-being than our present consumer society does. However, we cannot ignore the real cases of deprivation, suffering, and lack of opportunities for self-development that also occurred under those circumstances. Thus our task now is to find a proper balance between greater affluence and the sense of satisfaction. A closer look at how the consumer society came into being may help us to do so.

Individuals did not give up that older behaviour pattern, with its values of thrift and conservation, simply because more disposable income became available. It is true that, over a relatively short period of time, many persons in North America were able to increase their consumption of goods and services. But in my opinion it is not primarily the number of goods that is important, but rather the cultural context which shapes our attitudes about using them. The cultural context in this case was a far too rapid change in lifestyle "models." This development, rather than higher levels of material consumption, brought about the equally rapid

erosion of the values associated with the older conserver society.

This was partly a matter of chance. The economic developments which made possible the higher material consumption coincided with important technological innovations in mass communications media. Television (and to a lesser extent improved colour photography in magazines) brought a huge increase in the daily exposure of individuals to the imagery employed in advertising and programming. In addition, the special qualities of visual imagery made television much more significant in this regard than radio had been. Psychological studies have shown that information or messages are conveyed far more effectively when they are associated with visual images -- as opposed to being put simply into written or spoken form.

During the same period, individuals were changing the kinds of daily activities on which they spent their time. The so-called "time budget" studies show in detail where the changes occurred. On average individuals reduced the amount of time they used to spend on -- for example -- walking, reading, and eating meals; and about half of this time has been reallocated into watching television. Both the amount of time spent watching television every day in the average household, and the special effectiveness of visual imagery in conveying messages, are significant. For individuals were now exposed, every day, to highly effective presentations of "modern" lifestyles -- not only in the advertisements, but just as much (if not more so) in the background settings of the programs themselves. (For example, the type of automobiles, homes, clothing, and other possessions that are owned by the characters in the soap-opera programs.)

Both the direct messages in advertisements, and the indirect messages in the background settings of visual media, supply the "cues" that shape values,

preferences, and behaviour. If we consider all the media together (television, radio, billboards, magazines, newspapers, store displays, and so forth), we can realize how many cues there are for individuals in our social environment today. The common underlying theme in these cues is the invitation to the individual to try something new, to change his or her preferences, with the suggestion that greater personal success or happiness will result.

What does happen in this situation? Some interesting evidence is provided in extensive surveys of "happiness" that have been done in the United States over the last twenty-five years. In this period real per capita income has increased on average 62 per cent; but there is almost no change in the proportion of the population who report that they are "very happy," "fairly happy," or "not very happy." In other words, about the same proportion of the population considers itself to fall into these three categories in 1970 as in 1946. The economist Tibor Scitovsky, who has called attention to these surveys in a recent book, calls this the dilemma of "rankhappiness."

III. The Problems of the "Positional Economy"

The dilemma of "rankhappiness" is the key element in the general perspective on lifestyle changes that is outlined in this report. Once we understand the nature of this dilemma, we will be able to see more clearly the relevance of this general perspective for long-range energy and electrical power planning.

When the consumer society began to emerge in the nineteen-fifties, the Canadian population as a whole already had achieved a level of con-

sumption in which the most basic material necessities of life were met. Although there were clear instances of deprivation, there was no significant starvation, malnutrition, or death due to inadequate shelter. This is the first important point. The second is that increasing material affluence became possible in a specific cultural context which we may refer to as the "market society." In this context each individual is supposed to act independently of all others in ordering his or her preferences so as to "maximize" his perceived well-being. The individual selects, out of the whole range of cues in the social environment referred to earlier, a certain set of goods and expectations which all together make up a lifestyle.

But on what basis are these selections made? More precisely, how do changes in preferences occur? We cannot assume that there is any "natural" or "innate" aspect of human psychology which would explain, for example, a widespread shift in preference from home-baked whole wheat bread to mass-produced white bread. The only sensible explanation is that social or cultural influences are responsible for such changes in preferences. Through media imagery and peer-group pressures many individuals are persuaded that the newer preference promises a higher degree of satisfaction than the older one does. One accepts the new taste because others -- whose good opinion of us is important to us -- are doing so, because one does not want to be "old fashioned" when fashions are changing.

The main problem in this situation occurs when there is a widespread rise in real incomes, as there was in North America in this period. Since basic material necessities have already been provided for, and since almost everyone is experiencing changes in preferences, the whole social hierarchy

shifts. Everyone is better off in terms of living standards (as they are conventionally understood), but the relative differences in income shares do not change. (The income shares are the proportions of the national income that go, for example, to the top or bottom 20 per cent of income earners in the population.) And in the market society, the primary determinant of individual well-being is access to consumption patterns based on income.

In the social situation described here, it turns out (as demonstrated in empirical studies) that individuals derive their sense of satisfaction primarily from status itself, that is, from the relative social ranking or interpersonal comparisons that occur at any income level. With widespread rises in real incomes most individuals tend to assume that they are "rising" in the social status hierarchy; since so many persons are making these assumptions simultaneously, however, most find in the end that they are no better off in status terms than they were before. Thus the improvements in living standards associated with rises in real incomes does not lead to increased satisfaction or happiness in the population as a whole.

This paradoxical situation has been explained by the economist Fred Hirsch in terms of what he calls competition for "positional goods." Formal education provides the best example of what he means. Opportunities for formal education have been sought by individuals in part for the intrinsic satisfaction that knowledge brings, but much more importantly as a means of access to high-status professional jobs. (There is both social prestige and relatively high incomes associated with, for example, the professions of law and medicine.) In earlier periods relatively few persons had such opportunities. The growing wealth of the economy enabled

governments to expand educational facilities and opportunities, so that many more persons could pursue university degrees.

What happens? The prestige or status associated with a university degree itself is progressively "devalued" as more and more persons have them. The professional associations raise their admission standards in order to continue to restrict entry into the professions, thus protecting the relatively high incomes of their members. At the same time, formal educational qualifications for many non-professional jobs are also raised: Where once a high-school diploma was sufficient, now a university B.A. degree is demanded of applicants. The same occurs with master's degrees and even doctorates. The whole status hierarchy associated with formal education achievements shifts along the spectrum of higher degrees and longer training. There are to be sure some benefits to society as a result of having a more highly educated population as a whole. But in so far as what individuals seek in this regard is status advancement, there are little or no net benefits. Many individuals have shifted upwards both their achievements and their aspirations together, but the relative "distance" between them (in terms of possessing educational certification) has remained roughly the same. On balance there is no net gain in satisfaction, and at the same time society has paid a very high price in expanding facilities for formal education.

There is another aspect of this situation that is especially relevant to the increasing consumption of energy and electrical power. Much of our improved material affluence is expressed in terms of greater comfort and convenience in our daily lives, all of which is a function of increased energy consumption. Central heating in homes, offices, shops, and other settings is one major achievement. Another is the easy availability of

automobile transportation, especially in replacing walking for short trips (most automobile journeys involve quite short distances). Perhaps most significant of all is the great convenience brought by electrical power. We "flick a switch" or insert a plug on innumerable occasions each day, in such a casual manner that we normally take no notice of the act. Under most circumstances the energy we use is not "visible," and we rarely think about it as we go about our daily routines, assisted by countless machines and devices.

In a very sophisticated argument Tibor Scitovsky has shown why this attitude has become a problem for our society. Drawing upon psychological studies, Scitovsky suggests that comfort and convenience affect us much like drug addiction does. In addiction, the pleasure derived from the initial uses of the chemical substance quickly disappears, and the addict thereafter requires a continuous supply primarily to ward off the intense pain of withdrawal that would occur if regular usage were interrupted. In other words, the initially high degree of satisfaction quickly diminishes; increasing the dosage is the only way to re-experience it, but this is a temporary solution which will ultimately destroy the person.

In an analogous way, we experience a diminishing sense of satisfaction from the changes in living standards that bring increased comfort and convenience to our lives. Central heating, frequent automobile journeys, electrical appliances, and many other similar things are soon taken for granted by us; we are hardly even aware of them except when we are suddenly deprived of them. Sometimes we do re-experience the initial pleasure, for example in taking a hot shower after returning from a backpacking trip in the woods; but it is soon lost as the experience becomes a regular part of our daily life once again. Sadly enough, we seem determined to

eliminate most of these pleasures of re-experience from our lives: so, for example, we seek out on our vacations the campgrounds that have facilities for hot showers along with other features of urban life.

If this analysis is correct -- and I think that it is --, then we have an important insight into the apparently endless escalation of material demands in the consumer society. Many of the material advantages over earlier generations that we enjoy recede into the background of our daily lives, become unnoticed and taken for granted, and cease to give us experiences of satisfaction. Especially for younger persons who have not lived through the transitions, the new comforts and conveniences are merely the base level of "normal" living standards on which yet higher material expectations flourish.

In my own recent book I have tried to present a complementary analysis, which focusses specifically on the implications of the consumer society for the individual's sense of satisfaction, well-being, and quality of life. In the consumer society most persons have access (at different income levels, of course) to an enormous range of goods and services. Most goods have complex characteristics. This refers not only to the complexity of their physical and chemical composition, but also to the many "symbolic" associations they bear. To explain this point we can think of automobiles, cigarettes, or alcohol, for example, and the way individual preferences for such things are formed. The many messages about them associate these goods with visual images of friendship, success in love or in careers, "having a good time," and so forth. Over time these messages have tended to concentrate less on the characteristics of the specific product, and more on simply associating the product with changing life-styles. We can assume that different individuals react to these messages

in different ways, but we must also recognize the enormous influence of this visual imagery on people's attitudes in general. Recent studies have shown that many people's understanding of the society in which they live is very significantly conditioned by the television programs that they watch.

Individuals come to the marketplace with complex assortments of needs and wants, and they find there many complex messages that suggest ways of satisfying them. Here we should recall one of the points made earlier, namely that in the consumer society each individual strives to formulate his own changing preferences in the absence of any strong institutional guidance, such as what was supplied in earlier times by the influence of older generations in extended family settings. The key point is the gradual loss of stable and readily-identifiable indicators of personal well-being.

For example, the stronger ethnic ties of older generations kept alive traditional customs of dress, cuisine, and popular entertainment; the acquisition of skills in perpetuating these customs provided a stable reference-point for the sense of individual satisfaction. The "homogenized" popular culture of the consumer society continuously promotes new fashions in such matters, and the rapid turnover of new styles does not allow individuals to achieve any depth of experience in adjusting their tastes to them. To take another example, the choice of a particular vocation to be followed by a young person was often a matter of careful consideration in middle-class and lower-middle-class families, and as a result the person expected to derive a significant part of his life-satisfaction from performing with skill the tasks of this vocation. At present the overriding personal imperative is to maximize one's income, and individuals

are constantly urged to improve their chances in this regard by re-educating themselves to qualify for different, higher-paying jobs. In these cases as in many others, individuals have lost the cultural guidance that once offered them a clearly recognizable standard by which to measure their achievements and to find satisfaction in them.

The decline in stable indicators of well-being, we can surmise, must result in increasing ambiguity and confusion in the sense of personal satisfaction. Without institutional guidance from outside the marketplace, and bombarded daily with complex, ever-changing symbols of success in the messages and cues that refer us always back to the marketplace, individuals can only keep searching for the right lifestyle "package" -- and hope that it does not become obsolete before they have assembled it. Everyday life in the consumer society resembles somewhat a lottery.

Rankhappiness, positional goods, and ambiguity in the sense of satisfaction have a common outcome: the fluidity or malleability of lifestyles. This is the essential point in understanding the consumer society. So long as we continue to have a market society, with its diversity of influences on individual preferences, we will not be able to predict lifestyle changes; but this is relatively unimportant. The important fact is that individuals have been conditioned to expect and desire continuous change in lifestyle patterns. In my view it is change itself, rather than any particular direction or content of change, that is the most significant factor in lifestyle patterns in the consumer society.

IV. Lifestyle Changes and Social Policy

Until quite recently it was commonly held that lifestyle choices were

a purely private matter, except of course where violations of the criminal code were involved. It was assumed that individual preferences were generated largely in isolation from each other and that they were based on "information" about available goods and services. Government economic policy was concerned with aggregate, quantitative indicators such as employment and investment, and the chief criterion of successful policy was (and perhaps still is) a "satisfactory" percentage increment in real GNP for each year.

In the last few years, however, there have been some major alterations in this outlook. These have come about largely as a result of the severe inflation and "stagflation" in Western industrialized countries. In Canada these inflationary pressures have been linked, for the first time in a significant way, with a "soft" or non-quantitative variable: the "inflation of expectations." Political leaders have warned the Canadian people that rapidly-escalating expectations for material goods will damage the economy and lead to severe social tensions.

For our purposes here it is immaterial whether either the analysis or the prediction, or both, is accurate. What is relevant in this context is the perception -- a correct perception in my view -- that understanding the sources of personal motivation and economic behaviour requires us to take seriously factors such as expectations, which are difficult to represent in quantitative terms. Some will say that it is impossible to base social policy decisions on such intangible factors. I will concede that great difficulties will be encountered when we begin to do so, but I also maintain that the necessity of doing so will become apparent -- sooner or later.

Let us recall two points about our society made earlier: basic

material necessities for most of the population had been met before the advent of the consumer society; and individuals in the consumer society are surrounded by innumerable messages which suggest to them the desirability of changing their preferences, as well as how to go about it. What this means is that most aspects of preference and lifestyle change are largely symbolic in character.

The movement from urban to suburban areas in North America can serve as an example. I think it is safe to say that the primary motivation for this development was (and in some cases still is) the association of the new housing pattern with upward mobility in status terms. Certainly we know that the tangible benefits, such as more interior and exterior space, were offset by the somewhat less tangible disadvantages connected with the "suburban housewife" syndrome, such as the loneliness due to weaker relations with neighbours and the greater distances between home and public facilities. For some sectors of the population the status considerations are still powerful today; for others, the sheer scale of the movement has cancelled whatever status advantages the move to suburbia once had, and there is a small but growing movement in the other direction: Living downtown in renovated older houses is becoming "fashionable."

The social cost of these symbolic associations which motivate life-style changes can be enormous. In terms of energy consumption, for example, the suburban dwelling pattern is energy-intensive in at least two important ways: dependence on automobile transportation and higher heat losses from detached homes. This dwelling pattern is an example of positional goods competition, where individuals strive for upward mobility in status terms; in these terms there are no net benefits for the population as a whole, as was explained earlier with the example of formal education. But

our society pays the price for the attempts by individuals to achieve status changes, in this case by the enlarged demands for energy and other goods.

Fred Hirsch has argued that, once basic material necessities are satisfied, increasing affluence and economic growth brings steadily intensified competition for positional goods. I think that this is correct, and it is another way of putting the point made earlier, namely that most aspects of preference and lifestyle change are largely symbolic in character. This could also be expressed by observing that what people perceive as their "needs" are made up of symbolic associations between goods and images of success or happiness.

The most significant aspect of this social situation is its fluidity and lack of specific direction. In other words, it does not matter what the symbols of success or status difference are, or what kinds of goods the symbols are attached to: They may be large cars and suburban homes, but they could just as well be small cars and urban homes (as they are in some places in Europe). Thus the general perspective that has been developed here can be summed up as follows: (1) increasing consumer demand for material goods results in large part from a striving for symbolic status differences; (2) there is continuous change in the ways that goods are associated with status indicators.

I shall now turn to the question as to why lifestyle change must become an explicit consideration for social policy in general, and for energy and electrical power planning in particular. Two aspects of this question are especially relevant: the exponential growth of expectations and the increasing interdependence of our behaviour and institutions.

Real per capita income rises in the first phases of the emerging

consumer society probably eliminated some persistent deprivations and so contributed to increased well-being in general. And at the prevailing levels of material consumption, some degree of positional goods competition probably was not too costly in terms of wasting our society's material resources. But, as we are now well aware, every exponential growth process has an inherent limit, at least in practical terms. It was inevitable that, sooner or later, the "inflation of expectations" -- or whatever we wish to call it -- would cease to be merely a harmless idiosyncrasy of our economic system. At higher levels of per capita resources consumption, and with ever greater numbers of people entering the arena of positional goods competition (due to rises in real income), our institutions become unable to respond to demands stemming from unregulated expectations. Some economic and social policy initiatives must be devised to cope with this problem. Today we stand at the beginning of the era which will be called upon to do this.

The second reason for a social policy response has to do with the growing interdependence of our daily lives. In earlier times our society was more loosely structured. The different segments of the population (rural vs. urban, or one region vs. another) were less closely bound together, in terms of their dependence on such things as resource supplies or government economic policies. The best example is provided by electrical power supply. Neither a brief nor a protracted interruption in the anticipated supply of electrical energy would have been nearly as damaging (in terms of the criteria prevailing at the time) fifty years ago as it would be today. Indeed the task of the Royal Commission on Electric Power Planning is in one sense a reflection of this changed situation: Unlike earlier generations, we must seek to co-ordinate, under a unified

planning process, a multitude of widely diverse considerations that will assure us a known supply of electricity, because we have integrated so much more the daily activities -- at home, work, and play -- that depend on it.

But this higher degree of integration in more and more activities, by more and more people, presents some difficulties not previously experienced. One of the chief difficulties has to do with the feedback process whereby individuals recognize the consequences of their choices and preferences. The more complex our interdependence becomes, the more difficult it is for individuals to recognize clearly the consequences of any particular choice. This is one of the main reasons why a social planning process becomes necessary.

To illustrate this point we can use the example of exponentially increasing demand for electrical power. Electrical energy supplied by hydraulic means is relatively benign in terms of its social and environmental impact. Generated by fossil fuels, the supply considerations require a higher level of institutional regulation, for instance in calculating rates of resource depletion and in controlling air pollution. Nuclear generating stations demand yet higher regulatory standards and planning reviews, for obvious reasons.

These considerations all apply to the matter of supplying different quantities of electrical energy. But what about the matter of the demand for it? So long as the demand can be met by hydraulic sources, there is no cause for concern. As we passed from this to fossil fuel to nuclear sources on the supply side, we recognized the necessity for increased regulatory supervision. Yet, curiously enough, we have not applied the same perspective on the demand side. The point is, when people enlarge

their demand for electricity in everyday life situations, they are not aware that at some point -- impossible to specify except in general terms -- they have crossed an important threshold in terms of the supply technology.

We cannot expect individuals to be aware of these thresholds: for all practical purposes, it is impossible for them to do so. A personal decision to purchase an electrically-heated home is a case in point. The electricity bills are at present a small fraction of the other costs, primarily mortgage interest payments, and thus they will not be a major factor in the decision. Our interdependence is at such a high level that the information feedback from any particular consumption decision will not be sufficiently precise for us to evaluate the full consequences of this decision. Tens of thousands of purchasers of electrically-heated homes, all drawing power from the same grid -- together with other residential, commercial, and industrial users --, will affect the supply technology. Individually they will not, nor will they consider themselves (correctly) to have done so.

Is it not possible to influence such decisions simply by raising the price of energy? This is obviously a complex question which cannot be considered in detail here. I do not think that in general this would be an adequate response, in part for the reason given in a recent paper by Schipper and Darmstadter. They note that "only a few non-energy goods and services^{*} are energy intensive (measured in Btu consumed/dollar of final demand). This means that changes in energy prices will only have a small effect in the short run on the prices of most of the consumption decisions involving these activities."

These authors stress the desirability of what they call "mandated

*By "non-energy goods and services" is meant any item other than energy itself. In other words, the energy cost component of any product is a small proportion of its total cost.

"economic efficiency" in energy consumption. This refers to legislated standards for building insulation or automobile performance, for example, which is necessary due to the lack of adequate information feedback or delayed market responses. There is a growing consensus in favour of this approach, in Canada and elsewhere. But when the discussion turns to lifestyles, almost every commentator restricts himself to the weak hope that somehow we will be able to "predict" future lifestyle changes and their impact on energy demands.

In this report I have sought to lay the basis for a different approach. I suggest that we must begin to explore ways of influencing the future direction of lifestyle changes by means of social policy choices.

This suggestion is based on the following series of propositions:

(1) it is now generally acknowledged that, for example, energy and electrical power demand is a function of living standards or lifestyles; (2) lifestyles, or perceived living standards, are shaped by the symbolic associations linking goods with images of well-being; (3) these symbolic associations give rise to positional goods competition, which do not result in significant net benefits for the population as a whole; (4) exponential growth in positional goods competition (or the "inflation of expectations") sooner or later creates serious tensions in our social system; (5) individuals receive insufficiently precise feedback on the impact of their changing preferences due to society's complexity today; (6) new directions in lifestyle changes are possible, due to the fluidity and malleability of lifestyles today; (7) if devised with due sensitivity to democratic freedoms, social policy influences may be able to enhance the sense of individual satisfaction and well-being.

V. A Policy Framework for Energy Planning

One evening last year I was returning home from my university, after spending a day discussing with colleagues various viewpoints on the prospective social, economic, and environmental impacts of a large-scale network of nuclear generating plants for providing electrical energy. I passed by a young boy, apparently in the prime of health, attending to his family's front lawn with the aid of an electrically-powered device designed to trim the edges of the lawn. I could not help wondering about how we could ever bridge the great gap between the careful, extremely complicated deliberations reflected in our planning processes for future electrical energy supplies, on the one hand, and on the other, the casual substitution of mechanical power for human energy in such undemanding daily tasks.

Again, this may appear to be a trivial example. I do not think that it is. It illustrates the larger "imbalance" in our society between the activities that, we now believe, require careful public planning (such as electrical energy supply), and those activities that we prefer to leave unplanned at the social level (such as consumer preferences and lifestyles). We would not dream of leaving the installation of nuclear power plants in the hands of unregulated private enterprise. Yet it is equally repugnant to us to consider dictating directly to individuals how they should spend their incomes.

It was in part the growing complexity of our economic system that, a quarter-century ago, led governments to begin intervening in the economy through public policy measures. Present-day governments are finding it more and more difficult to manage national economies so as to meet traditional

policy targets (such as desired levels of GNP growth and employment). There are those who claim that these difficulties are the result of government intervention itself, but it is unlikely that this viewpoint will be widely accepted. We will gradually realize that we must alter the kind of policy interventions that are undertaken. The scope of policy initiatives, which so far has been largely restricted to the quantitative indicators, will have to be broadened to include the qualitative dimensions -- such as "expectations."

Energy conservation advertisements attempt to support current policy initiatives by influencing lifestyles and preferences. A modest number of such public education campaigns is certainly acceptable (whether they are or can be effective on a significant level is another matter). What would not be acceptable to most people is any general dictation of lifestyle changes made on the basis of public policy decisions. I have suggested, however, that policy decisions can and must influence future lifestyle changes, with the objective -- for example -- of achieving significant reductions in projected growth rates of demand for electric energy. Since direct controls over lifestyle changes are unacceptable and are inconsistent with our democratic liberties, ways must be found to implement "indirect" influences.

An example of indirect policy influence is given below. Here it is important to note that indirect measures can yield results only in the long run, and therefore it is necessary to have a long-range planning process in place. The time frame set out in the Royal Commission's terms of reference is an appropriate model for this purpose. What would be a possible policy framework designed to moderate the growth of energy and electrical power demand for the period 1983-1993?

It would be divided into two phases, the first to be concerned with setting actual targets and planning procedures and the second with initiating the implementation stage. We are familiar with the long lead times now required to bring on stream major new generating installations, and an equally long lead time must be entertained for serious policy initiatives in energy conservation.

The example to be used here is residential dwelling patterns. Rather than simply attempting to predict what proportion of new homes will be heated by electricity in the coming decades, the policy initiative suggested here would set as its target a significant reduction in energy consumption related to residential use patterns in new housing construction.

It would have four major components (there would undoubtedly be others):

(1) a strong bias in favour of row and semi-detached, rather than detached, homes; (2) district heating schemes; (3) maximum possible use of both passive and active solar energy; (4) reduction in automobile journeys.

These objectives would be promoted by an appropriate use of planning approvals, construction standards, land marketing strategies, research programs for new technologies, and subsidies and tax incentives for both builders and home buyers.

All of these mechanisms are already used by governments in some form. What is proposed here is that they should be brought to bear, as forcefully as possible, to promote energy conservation. Second, there is no suggestion here of a government-imposed uniformity in size or design, which will still respond to differing consumer preferences. Third, a reasonable lead time is proposed, so that specific programs would be set up only after full consultations among different levels and departments of government, the construction industry, financial institutions, and

consumer groups. If programs and targets were in place -- and implementation begun -- by 1983, the payoffs might start to be evident by the end of the planning period chosen for illustration here, in 1993.

The objectives mentioned above would be supported by comparable measures with respect to new construction in the commercial and industrial sectors, as well as for retrofitting of existing structures. And building construction is only one of the many areas in which energy conservation objectives can be pursued by means of the public policies mentioned above. The overall result will be to shift somewhat the range of goods and services offered by producers to consumers, and to allow consumers to express, more readily than is possible now, preferences for goods and lifestyles that embody the effects of intensive energy conservation policies.

This is how this policy framework relates to the general perspective on lifestyle change outlined earlier. The new policy initiatives will encourage producers to bring onto the market an increasing number of goods and services that embody energy-conserving technologies. They will be marketed just like other goods and services are in the consumer society: that is, they will be associated with images of success and happiness. The relative "power" of the symbolic associations attached to energy-conserving goods and lifestyles will be largely a function of how intensively they are marketed. (I am assuming that policy decisions will tend to eliminate significant price considerations.) It may well turn out to be the case that the new ways become fashionable.

It is just the degree of fluidity and malleability in lifestyles, brought about by a quarter-century's experience in the consumer society, that allows us to assign a reasonably high probability of success to this proposal. It is consistent with what individuals have come to expect and

desire in this situation, namely changing preferences and lifestyles. Since -- as I suggested earlier -- the specific direction or content of change is immaterial for all practical purposes, there is no reason to suppose that this particular lifestyle change would be deemed unsatisfactory, so long as it can compete with others on favourable terms. And it is consistent with our democratic liberties as well, since no compulsion for lifestyle change would be applied to any individuals or groups.

The specific overall target for moderating growth rates in demand for energy and electrical power could only be set after much fuller deliberations. In my view it should certainly be lower than 6% per annum, which yields a doubling time of about twelve years. There are two reasons. One is the escalating marginal cost of energy supply, with its resultant financial strain on the economy; on the whole it is now cheaper to conserve a unit of energy than to produce an incremental unit. The other is the "social strain" resulting from the necessity of managing such huge institutional planning processes. The more integrated our entire network of social interdependence becomes, the more difficult it is for individuals to be provided with sufficiently precise feedback on the consequences of particular choices. This fact counsels us to attempt to manage exponential growth, in any aspect of our social life, toward lower rather than higher rates.

Whether a future growth rate in electrical energy demand lower than 6% per annum is either possible or desirable is, of course, an open question: I have not sought to argue the point adequately, one way or the other, in this report. My main concern has been to improve our understanding of lifestyle change, and to suggest that we can and should seek to influence lifestyle changes through social policy decisions. In

this regard I have also suggested that we need not assume that we require precise quality-of-life indicators in order to include these dimensions of social life in our policy deliberations. The chief things we must know about lifestyle changes in the consumer society are that lifestyles are (1) extremely malleable and (2) that they are constructed from symbolic associations with diverse images of success and happiness. Policy choices can help us attain important social goals by influencing lifestyle changes in the way illustrated above.

VI. Conservation and the Quality of Life

In the absence of more general lifestyle changes, improving the energy efficiency of our economy through conservation policies is unlikely to be significant in moderating growth rates in demand in the long run. It is probably true, as Schipper and Darmstadter contend, that the new consumer spending opportunities made possible by savings from energy conservation will yield a lower aggregate energy demand. Although we can only guess at the likely outcome, since there is no comprehensive energy conservation program in place, I suggest that conservation policies as presently contemplated by governments would have only a slight dampening effect on growth rates. The argument by these authors (referred to earlier) -- that most non-energy goods and services themselves are not energy intensive -- tends to support this viewpoint.

For this reason, it seems to me that major changes in lifestyle patterns are necessary in order to achieve significant reductions in growth rates of energy and electrical power demand. If we begin to construct an appropriate policy framework now, the infrastructure that would

make possible really significant energy savings -- such as new residential and transportation use patterns -- could start generating identifiable payoffs in fifteen or twenty years. We have every reason to believe that, given the malleability of life styles, the new patterns would represent a level of perceived living standards at least as high, if not higher, than we now enjoy. Everyone agrees that exponential growth processes cannot be sustained indefinitely. Quite obviously, the longer we wait before taking steps to control them, resulting eventually in zero or even negative per capita growth, the harder it will be to do so.

Why should we not start now?

The policy framework outlined above, I should like to emphasize again, is not intended to dictate preference changes to individuals. It is a necessary exercise of public decision-making responsibility. It has become necessary because the complexity and manifold interdependence in our society prevents individuals from receiving sufficiently precise feedback on the social consequences of particular choices. It will permit individuals to choose more easily satisfactory levels of living standards that embody major energy-conserving technologies.

Thus I think we can say with confidence that a comprehensive energy conservation program, designed to influence future lifestyle changes, does not threaten to reduce our living standards or our perceived well-being. I would like to conclude by considering briefly the question whether, on the contrary, such a program might even enhance the quality of life in the long run.

Schipper and Darmstadter state emphatically that "conservation is not an end in itself, but instead a means toward furthering economic and social goals that involve resource use." Certainly conservation is a means

of extending the useful life of our resources and of extracting greater tangible benefits from them by eliminating unnecessary waste. In my view, however, this is too narrow an interpretation of what a serious public commitment to energy and resource conservation practices could mean for our sense of well-being in the future.

The main contention of this report is that, in the consumer society, what our "standard of living" means to people is not to be judged by quantitative indicators (such as per capita energy consumption). Rather, it is largely a function of the changing network of symbolic associations that link images of happiness with goods and services. These make up the indicators of well-being that really matter to people; but, while people do derive a measure of genuine satisfaction from these symbolic associations, they are also ambiguous and confusing. This ambiguity, together with the dilemma of rankhappiness and positional goods competition, explains why greater material affluence does not result in a firm sense of increased well-being in our society as a whole.

Eventually we will have to formulate for ourselves more stable indicators of satisfaction and well-being on a personal level. A new conservation ethic can, I think, play an important role in bringing this about. On this level conservation is simply a caring attitude toward the environment from which we draw our daily sustenance. I do not think there would be much disagreement with the view that most persons derive a deep sense of satisfaction from caring for others, and from being cared for in turn by them. This has always been so on the level of interpersonal relations. And our society today acknowledges, on the level of public responsibility, a degree of obligation in this regard far higher than was the case in earlier times (even if it is often cast in impersonal bureau-

cratic forms).

In our fascination so far with the deceptive promises of the consumer society, with its rapid turnover of fashions and preferences, we have forgotten that this caring attitude once extended to our use of nature's resources as well. Out of those resources we make and choose the things that express in part our own identity and personality, and that reflect the qualities of our selves which we would like others to regard as being worthy of respect. These are, I suggest, the deepest and most stable sources of the sense of satisfaction, well-being, and quality of life.

The caring attitude that forms the basis of the sense of personal satisfaction is now out of balance, owing to our indifference toward the carelessness with which we use our natural resources. A new commitment to a conservation ethic could help us restore the balance and enhance the quality of our lives.

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